Appl. No. 10/551,089 In re Di Giacomo et al.

Reply to Office Action of Jun. 22, 2009

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:** 

Claim 1 (currently amended): A drive assembly (8; 52) for driving a rotary member (10), in in the form of a shaft of a pump (7) of a combustion engine (1); the assembly (8; 52)

comprising:

a movable supporting member (15);

a drive wheel (16) fitted idly to said movable supporting member (15);

elastic means (30) for moving exerting a force on said movable supporting member (15)[[,]] so that said drive wheel (16) angularly engages drivingly contacting said rotary

member (10) and a drive member (5)[[,]] powered by said combustion engine (1)[[,]] to drive

the rotary member (10); and further comprising

actuating means (81) which can be activated provided to exert a force in opposition to

that exerted by said elastic means (30)[[,]] to detach said drive wheel (16) from at least one of

said rotary member (10) and said drive member (5),

wherein said actuating means comprise comprising a reversible [[an]] electric motor

(81) which is reversible such that, when a force exerted by said elastic means (30) exert a

force, to push said drive wheel (16) against said rotary member (10) and said drive member

(5), which is being greater than the travel resistance of said actuating means (22, 47; 58, 81)

when maintained in a disabled rest condition, said force overcomes the resistance of the

electrical rotary motor.

Claims 2 and 3 (cancelled)

**-** 3 -

Appl. No. 10/551,089 In re Di Giacomo et al. Reply to Office Action of Jun. 22, 2009

Claim 4 (currently amended): [[An]] <u>The drive</u> assembly as claimed in Claim 1, wherein said actuating means (81) also comprise a mechanical drive interposed between an actuator (47; 81) and said movable supporting member (15).

Claim 5 (currently amended): [[An]] The drive assembly as claimed in Claim 4, eharacterized in that wherein said movable supporting member (15) comprises a connecting portion (20)[[,]] disposed opposite to an end portion (18) that supporting said drive wheel (16), and connected to said mechanical drive to move said supporting member (15) along a circular trajectory.

Claim 6 (currently amended): [[An]] <u>The drive</u> assembly as claimed in Claim 5, eharacterized in that <u>wherein</u> said mechanical drive comprises a gear drive (78) interposed between the electric rotary motor (81) and said movable supporting member (15).

Claim 7 (currently amended): [[An]] <u>The drive</u> assembly as claimed in Claim 6, characterized in that wherein said mechanical drive comprises cam actuating means.

Claim 8 (currently amended): [[An]] <u>The drive</u> assembly as claimed in Claim 7, characterized in that <u>wherein</u> said cam actuating means (59) are interposed between said gear drive (78) and said connecting portion (20).

Claim 9 (currently amended): [[An]] The drive assembly as claimed in Claim 8, eharacterized in that wherein said connecting portion (20) is a hollow tubular portion having an axis of symmetry (23) parallel to the axis of rotation (19) of said drive wheel (16); and in that wherein said cam actuating means (59) comprise a first hinge pin (60) engaging said

hollow tubular portion in rotary manner about said axis of symmetry (23)[[,]] and hinged to a fixed frame (53) to rotate about a hinge axis (66) parallel to and eccentric with respect to the axis of symmetry (23); said actuating means (58, 81) rotating said first hinge pin (60) about said hinge axis (66).

Claim 10 (currently amended): [[An]] The drive assembly as claimed in Claim 9, eharacterized in that wherein said elastic means comprise a torsion spring (30) housed in the tubular said connecting portion (20), and having one end fixed angularly to said first hinge pin (60)[[,]] and the opposite end fixed angularly to the tubular said connecting portion (20).

Claim 11 (currently amended): [[An]] The drive assembly as claimed in Claim 10, eharacterized in that wherein the tubular said connecting portion (20) defines an annular cavity (29) coaxial with said axis of symmetry (23); said torsion spring (30) being a wire spring housed in said annular chamber (29) and coaxial with said axis of symmetry (23).

Claim 12 (currently amended): An <u>drive</u> assembly (8; 52) as claimed in Claim 10, for <u>driving a rotary member (10) of a pump (7) of a combustion engine (1); the assembly (8; 52) comprising:</u>

a movable supporting member (15);

a drive wheel (16) fitted idly to said movable supporting member (15);

elastic means (30) exerting a force on said movable supporting member (15) so that said drive wheel (16) drivingly contacting said rotary member (10) and a drive member (5) powered by said combustion engine (1) to drive the rotary member (10); and

actuating means (81) provided to exert a force in opposition to that exerted by said elastic means (30) to detach said drive wheel (16) from at least one of said rotary member (10) and said drive member (5);

said actuating means comprising a reversible electric motor (81) such that a force exerted by said elastic means (30) to push said drive wheel (16) against said rotary member (10) and said drive member (5) being greater than the travel resistance of said actuating means (22, 47; 58, 81) when maintained in a disabled rest condition;

said actuating means (81) also comprising a mechanical drive interposed between an actuator (47; 81) and said movable supporting member (15);

said movable supporting member (15) comprising a connecting portion (20) disposed opposite to an end portion (18) supporting said drive wheel (16) and connected to said mechanical drive to move said supporting member (15) along a circular trajectory;

said mechanical drive comprising cam actuating means interposed between said gear drive (78) and said connecting portion (20), and a gear drive (78) interposed between the electric rotary motor (81) and said movable supporting member (15);

said connecting portion (20) being a hollow tubular portion having an axis of symmetry (23) parallel to the axis of rotation (19) of said drive wheel (16):

said cam actuating means (59) comprising a first hinge pin (60) engaging said hollow tubular portion in rotary manner about said axis of symmetry (23) and hinged to a fixed frame (53) to rotate about a hinge axis (66) parallel to and eccentric with respect to the axis of symmetry (23);

said actuating means (58, 81) rotating said first hinge pin (60) about said hinge axis (66);

said elastic means comprising a torsion spring (30) housed in the tubular said connecting portion (20) and having one end fixed angularly to said first hinge pin (60) and

Appl. No. 10/551,089 In re Di Giacomo et al. Reply to Office Action of Jun. 22, 2009

the opposite end fixed angularly to the tubular said connecting portion (20);

characterized in that said first hinge pin (60) [[is]] being fitted integrally with a radial toothed portion (76) of said gear drive (78).

Claim 13 (currently amended): [[An]] The drive assembly as claimed in Claim 12, characterized in that wherein said first hinge pin (60) terminates at one end with a radial appendix (74) having a curved slot (75) with its center of curvature coincident with said hinge axis (66); said toothed portion (76) facing inwards of said slot (75) and meshing with a pinion (77) movable inside the slot (75).

Claim 14 (currently amended): [[An]] The drive assembly as claimed in Claim 12, eharacterized in that wherein said electric rotary motor (81) is housed in a cavity defined by said frame (53), and has an output shaft parallel to the hinge axis (66).

Claim 15 (currently amended): [[An]] The drive assembly as claimed in Claims 9, characterized in that wherein said frame (53) is connected integrally to a fixed body (50) by a single through screw (70) extending coaxially with said hinge axis (66).

Claim 16 (currently amended): [[An]] <u>The drive</u> assembly as claimed in Claim 15, eharacterized in that wherein said frame (53) has a recess (56) bounded by a cylindrical end surface (57) coaxial with said axis of symmetry (23); said connecting portion (20) being housed removably in said recess (56); and said first hinge pin (60) being connected in rotary manner to a second hinge pin (67) coaxial with the hinge axis (66) and integral with a supporting plate (55) of said frame (53).

Appl. No. 10/551,089 In re Di Giacomo et al. Reply to Office Action of Jun. 22, 2009

Claims 17-21 (cancelled)

Claim 22 (currently amended): [[An]] <u>The drive</u> assembly as claimed in Claim 1, eharacterized in that <u>wherein</u> said movable supporting member comprises two contoured portions (15a) of the same shape and size.

Claim 23 (currently amended): [[An]] The drive assembly as claimed in Claim 22, characterized in that wherein said contoured portions (15a) extend on opposite sides of a central plane of symmetry (P) of the drive wheel (16), which plane is perpendicular to the axis of rotation of said drive wheel.

Claim 24 (currently amended): [[An]] The drive assembly as claimed in Claim 22, characterized in that wherein said contoured portions (15a) are made of molded plastic material.

Claim 25 (currently amended): [[An]] The drive assembly as claimed in Claim 23, eharacterized in that wherein said contoured portions contact, and are connected integrally to, each other.

Claim 26 (currently amended): [[An]] The drive assembly as claimed in Claim 22, characterized in that wherein the contoured portions define at least one end fork having respective arms (15b); each arm having a respective integral cylindrical projection (15c) forming part of a hinge pin coaxial with a relative axis (A), and to which the drive wheel (16) is mounted to rotate about the relative axis (A).